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ABSTRACT

This study was conducted to explore the relationship between participation in secondary marketing and distributive education (MDE) and economic attainment after high school. Specifically, the study sought to develop a model of economic attainment, i.e., job status attainment, unemployment, and wages for secondary MDE students. The study used the National Longitudinal Study of the High School Class of 1972 as the database. Two subsamples were used: the first subsample was of 1,118 students identified as MDE students; the second subsample was of 3,500 workers employed in marketing-related occupations in 1979. Path analysis was used to explore the association between secondary MDE and socioeconomic attainment. The results showed that both MDE participation and cooperative education participation had positive, significant relationships with job status attainment in marketing. Also positively affecting job status attainment in marketing was being male, obtaining higher education, mother's educational level, higher grade point average, and the size of the community where the respondent went to high school. No effect was found for race. It was concluded that participation in MDE and cooperative education enhanced the attainment of job status in marketing. However, the model created in the study showed that 86 percent of the explanation of the variance in job status attainment in marketing came from factors outside the model. Thus, MDE and cooperative education explain only a small part of this complex process. (KC)

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ECONOMIC ATTAINMENT OF SECONDARY MARKETING AND DISTRIBUTIVE EDUCATION STUDENTS

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Introduction

The association between participation in secondary marketing and distributive education (MDE) and economic attainment after graduation has not been clarified. While the general area of vocational education has been the focus of numerous studies, many using longitudinal data bases, few have focused on specific vocational programs such as MDE. Because of this, there presently exists no model to explain economic attainment for MDE students.

Purpose

The primary purpose of this study was to explore the relationship between participation in secondary MDE and economic attainment after high school.

Specificially, this study sought to develop a model of economic attainment, i.e., job status attainment, unemployment, and wages, for secondary MDE students.

Procedures

Population and Sample

This study used the National Longitudinal Study of the High School Class of 1972 (NLS72) as the data base. The NLS72 had as it primary goal the observation of the educational and vocational activities, plans, aspirations, and attitudes of young people before and after they leave high school and the investigation of the relationships of these outcomes to their prior educational experiences, personal and biographical characteristics (Wiley & Harnishfege, 1980).

The NLS72 was conceived as a survey of a representative national sample of high school seniors and their schools, using questionnaires that were completed by the seniors at their schools during spring 1972, and simultaneously by school officials. The project was funded by the National Center for Education Statistics (NCES). After seven years and four follow-ups, the overall response rate was 78% (Taylor, Stafford, & Place, 1981).

The sample design was a two stage probability sample of students from public and private schools in the 50 states and the city of Washington, D. C.

which had 12th graders during the 1971-72 school year. First schools were randomly selected within strata defined for the study and then seniors were randomly selected within schools (Strickland, Asche, & Burge, 1982).

The subsamples were drawn from the NLS data base for this study. The first subsample was 1,118 students identified as MDE students based upon the amount of MDE coursework. The second subsample of approximately 3,500 represented workers employed in marketing related occupations in 1979.

Marketing occupations were identified from the 1970 census codes used in the NLS72 data base. The 1980 classification of Instruction Programs (CIP) were crosswalked to the 1980 Census Codes and then to the 1970 census codes. Where translation was in obvious error or would cause the inclusion of non-marketing workers the classification was dropped from the list. Aside from simple errors in coding, there were a number of job titles listed in the CIP that were clerical in nature and thus dropped from the study.

The 55 job titles that emerged from this process were further subdivided into management related, sales related, and other marketing related occupations. The other category included service occupations and many non-retail occupations.

The Model

A simplified version of the path model developed for this study is shown in Figure 1. The model suggests the assumed causes of job attainment, income, and unemployment. There is an assumed order of causal priority which flows in the direction of the arrows. In this block-recursive model, the variables are blocked into four groups to simplify the presentation. The antecedent variables in the first block have been shown in the literature to have an impact on economic attainment and are presumed to have an impact on the mediating variables. Variables in the second block which measure participation in MDE and cooperative education are assumed to influence the mediating variables and economic attainment. The third block of variables, was shown by the literature to be a consequence of the antecedent variables, presumed to be a consequence of the treatment, and assumed to influence economic attainment. The fourth block of variables contains the dependent variables, measures of economic attainment.

Economic attainment in this study was seen as a process. This process considered the effects of social and academic background characteristics on participation in MDE. MDE was seen as a mediating variable between the students characteristics and ultimately, economic attainment.

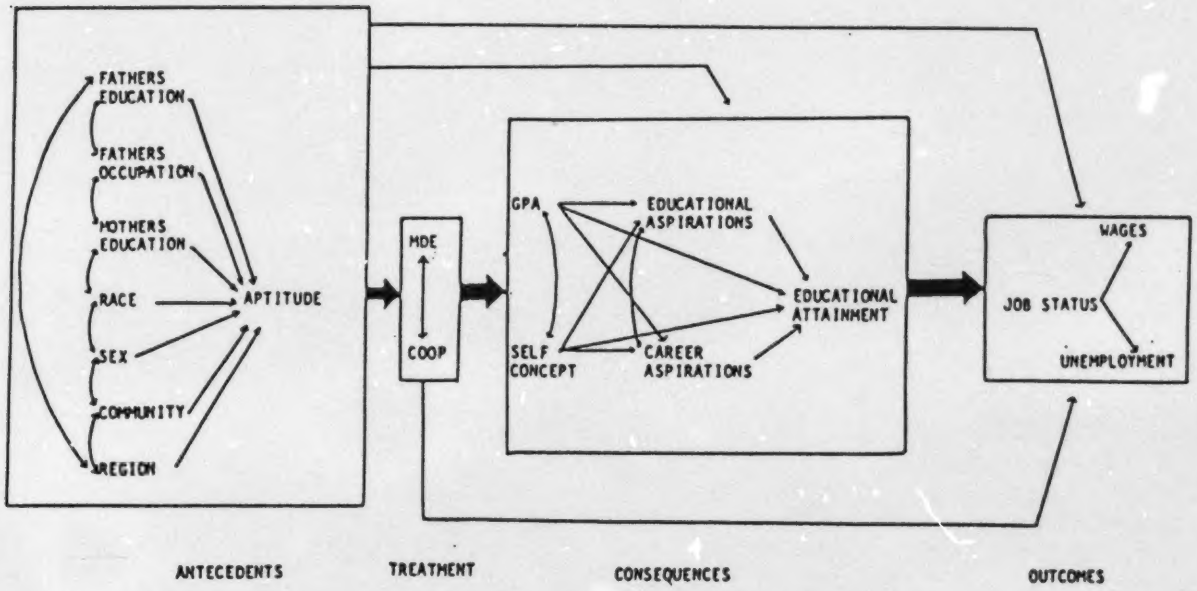

Figure 1. A model of socioeconomic attainment of secondary marketing and distributive education students

Analysis of the Data

Path analysis was used to explore the association between secondary MDE participation and socioeconomic attainment. While path analysis has been used in the biological sciences since the early 1920s its application to social science is more recent (Pedhazur, 1982). Path analysis is a technique for examining interrelated variables in a causal model for which exogenous variables are assumed to determine endogenous variables (Kenny, 1979). In this study, zero-order Pearson product-moment correlation coefficients were used to define the relationships between the variables of interest. Then path coefficients were estimated using a series of multiple regression equations (structural equations) that express the assumed causal order among the variables. Multiple regression allows the simultaneous examination of the magnitude of the direct or unique effect of one variable upon another. These effects are expressed as standardized regression coefficients or paths. In the model (Figure 1) the exogenous variables are father's education, mother's education, father's occupation, race, sex, size of the community, and region of the country. The other variables in the model are considered endogenous.

The analysis of economic attainment focused on the economic outcomes of job status attainment in marketing, unemployment and salary. The correlations among the variables are shown in Table 1. Of these three outcomes, only the model for job status attainment (see Table 2) proved to be viable (R^2=.138). The models for unemployment and wages had explained variances of .018 and .056 respectively.

Table 1

Correlations, Means, Standard Deviations from NLS72 for

Economic Attainment of MDE Students

Variables	WAGES	JOBATT	UNEMP	EDATT	EDASP	CANASP	GPA	CONCPT	MDE	COOP	APT	FAOC	FAED	MOED	RACE	SEX	Comm	NE	NC	SOUTH
WAGES	1.000																			
JOBATT	.111	1.000																		
UNEMP	-.050	-.057	1.000																	
EDATT	.071	.282	.061	1.000																
EDASP	.093	.249	.073	.665	1.000															
CANASP	-.010	.104	.020	.314	.420	1.000														
GPA	.018	.133	-.055	.315	.317	.209	1.000													
CONCPT	-.037	-.077	-.004	-.128	-.162	-.067	.092	1.000												
MDE	.002	.117	-.144	-.003	.026	-.021	.054	.034	1.000											
COOP	-.009	-.008	-.006	.143	.133	.125	.064	-.017	-.147	1.000										
APTITUDE	.041	.203	-.102	.450	.469	.274	.531	-.057	.064	.148	1.000									
FAOC	.013	.054	-.014	.127	.209	.107	.036	-.013	-.075	.029	.157	1.000								
FAED	.048	.147	-.043	.372	.347	.170	.140	-.052	.056	.070	.339	.237	1.000							
MOED	.050	.157	-.036	.341	.293	.152	.113	-.066	-.026	.082	.311	.157	.543	1.000						
RACE	.029	.054	.065	.039	-.023	-.008	.112	.017	.107	.016	.358	.036	.197	.168	1.000					
SEX	-.202	-.225	-.074	-.195	-.236	.081	.119	.068	-.010	-.007	-.105	-.052	-.082	-.097	-.072	1.000				
COMMUNITY	.062	.071	.003	.113	.122	.051	-.049	-.029	.052	.002	.019	.070	.077	.058	-.166	-.034	1.000			
NE REGION	-.020	.019	.008	.074	-.011	.053	-.063	.042	-.000	.087	.126	-.011	.044	.056	.045	-.029	.197	1.000		
NC REGION	-.014	-.014	.006	-.043	-.087	-.058	.014	.038	.012	-.112	.013	-.059	-.012	-.031	.111	.022	-.016	-.333	1.000	
SOUTH	-.021	.017	-.008	-.028	.046	-.006	.014	-.066	.101	-.018	-.112	-.051	-.075	-.058	-.086	.004	-.101	-.419	-.409	1.000
MEANS	5.615	51.77	1.990	4.055	4.167	57.41	7.475	2.073	3.252	1.936	204.7	67.16	2.387	2.186	0.832	1.507	2.172	0.254	0.246	0.340
S.D.s	4.388	18.41	0.097	2.381	1.350	17.79	1.001	0.454	1.868	0.245	31.9	32.49	1.269	1.038	0.374	0.500	1.194	0.435	0.430	0.474
N of Cases	2989	3486	2973	3481	1866	1868	2774	2428	250	3052	2328	3486	3405	3412	3458	3486	3265	3486	3486	3486

Table 2

Multiple Regressions of Job Status Attainment on Causally Prior Factors (Marketing Employees)

Dependent Variable	Independent Variables NE	NC	SOUTH	COMMU.	FAED	MOED	FAOC	SEX	RACE	APTITUDE	MDE	COOP	GPA	CONCPT	CARASP	EDASP	EDATT	R^2
JOBATT	036	031	060*	059*	074*	093*	006	-206*	020									.079
JOBATT	022	030	068*	054*	046*	069*	-007*	-199*	-027	159*								.098
JOBATT	010	013	044	046*	037	078*	007	-198*	-037	159*	098*	-025						.108
JOBATT	024	018	043	049*	037	078*	013	-103*	-027	098*	097*	-024	088*	-042*				.115
JOBATT	031	026	039	041*	017	069*	-004	-193*	-002	056*	096*	-033	073*	-031	007	033		.125
JOBATT	016	016	033	036*	001	054*	-004	-183*	002	040	101*	-038*	057*	-028	024	029	164*	.138
	Path Coefficients (Standardized Regression Coefficients)																	
																		Constant
JOBATT	1.50	1.35	2.51*	904*	107	1.62	003	-7.60*	961									52.56
	(607)	(1.09)	(102)	(290)	(323)	(386)	(011)	(695)	(946)									
JOBATT	915	1.27	2.66*	839*	672*	1.22*	-004	-7.32*	-1.31	092*								37.86
	(1.07)	(1.07)	(1.01)	(287)	(324)	(386)	(011)	(669)	(981)	(012)								
JOBATT	412	577	1.70	702*	536	1.38*	002	-7.30*	-1.86	091*	967*	-1.90						39.41
	(1.06)	(1.07)	(1.02)	(286)	(323)	(385)	(011)	(666)	(981)	(012)	(184)	(1.39)						
JOBATT	1.02	7.87	1.66	758*	530	1.39*	004	-7.75*	-1.35	059*	960*	-1.84	538*	-1.17*				52.23
	(1.07)	(1.07)	(1.02)	(286)	(323)	(384)	(011)	(679)	(983)	(014)	(183)	(1.39)	(135)	(510)				
JOBATT	1.32	1.10	1.53	640*	243	1.23*	-002	-7.11*	-100	032*	945*	-2.46	445*	- 877	034	1.46*		49.20
	(606)	(607)	(1.01)	(285)	(325)	(383)	(011)	(708)	(1.00)	(015)	(183)	(1.38)	(136)	(510)	(021)	(330)		
JOBATT	682	695	1.29	562*	-008	964*	0[illegible]	-6.73*	141	023	997*	-2.87*	353*	- 801	030	330	1.27*	51.22
	(1.06)	(1.06)	(1.00)	(283)	(325)	(382)	(011)	(706)	(998)	(015)	(182)	(1.36)	(135)	(506)	(021)	(370)	(194)	
	Regression Coefficients[a]																	

*Indicates significance at the 0.05 level of probability.
**Standard errors in parentheses.

As may be seen in Table 2, both MDE participation and cooperative education participation had positive, significant relationships with job status attainment in marketing. Also positively affecting job status attainment in marketing was being male, higher educational attainment, higher grade point average, and the size of the community where the respondent went to high school. Thus, MDE participants who participated in cooperative education are more likely to have obtained higher occupational status in marketing in 1979 than those who did not participate in cooperative MDE. In all, seven of the independent variables were significantly related to job status attainment. Five of these had beta's exceeding .05. Two did not. The size of the community (beta = .036) had a metric coefficient of .562. That meant that the difference between going to school in a small community or a large community (a two unit increase) produced only a one point increase on the Duncan scale for job status attainment--not a very meaningful result. By contrast, participating in a cooperative MDE program (beta = .038) had a metric coefficient of -2.87. That meant that cooperative program participants had a nearly three point advantage over nonparticipants in job status attainment. The effect of cooperative program participation on job attainment was equivalent to the effect of 2.3 units of educational attainment--a rather meaningful findings.

Of the five variables with beta's exceeding .050 sex was related to job status attainment in a negative way; i.e., being female was associated with lower job status attainment in marketing occupations. Educational attainment was positively associated with job attainment. People with higher levels of education achieved higher job status in marketing. MDE was positively associated with higher job status attainment; i.e., higher levels of MDE

participation were associated with higher job attainment in marketing. Higher mother's education and higher grade point average were also positively associated with job status attainment.

Sewell and Hauser (1975) reported 5 of 12 variables in their model of job attainment to be significant and yielded a coefficient of determination of .426. Grasso (1975) reported a coefficient of determination of .180 in his analysis of young workers from the mid-sixties. The present model produced a smaller coefficient of determination, .138, and substantially different metric coefficients than either of the above studies.

Educational attainment was the strongest predictor of job status attainment with a regression coefficient of 6.123 in the Sewell and Hauser (1975) study. In the present study, educational attainment was also a strong predictor but the regression coefficient was 1.27. For persons employed in marketing, a one unit increase in educational attainment produced a 1.27 point increase in the respondent's Duncan score. The Sewell and Hauser (1975) study showed, in descending order of magnitude, the following variables to be significant contributors to explaining the variance of job status attainment: grade point average (beta = .123), career aspirations (beta = .119), aptitude (beta = .082), and father's occupation (beta = .070).

By contrast, the present study showed that sex is strongly related to job status attainment in a negative way. That is, females in marketing occupations lost 6.73 points on job status attainment on the Duncan scale. However, MDE trained employees gained about one point in job status attainment for each semester of participation. Each additional unit of mother's education was worth .96 points on the Duncan scale. Similarly, a one unit increase in grade point average increased the job status attainment by approximately one-third of a point. Thus it would seem that the job status attainment of marketing employees was similar to that shown by Sewell and Hauser (1975), but that additionally, sex, MDE, and cooperative program participation were significant causes of variance.

With the exception of mother's education, all of the effects of the background variables were mediated by the intervening variables, as were aptitude and educational aspirations. There was no evidence of status inheritance as found by Sewell and Hauser (1975) for persons employed in marketing.

While it was difficult to compare this study to Grasso's (1975) because of the nature of his design, some comparisons were possible. Where he found white males from academic tracks to be advantaged in job attainment, this study found no effect of race. Where he found no effect of vocational preparation on job status attainment, this study found a positive effect of both MDE participation

and cooperative program participation on job attainment of marketing employees. Thus, these findings for a specific vocational program tended to contradict those reported by Grasso (1975) on the effect of vocational preparation on job status attainment for all vocational students.

Thus, higher job status attainment in marketing was associated with being male and having attained higher levels of education. It was also associated with higher mother's education and higher respondent's grade point average in high school. And, it was associated with participation in MDE and with cooperative program participation.

Discussion

It can be concluded from this study that participation in MDE and cooperative education enhances the attainment of job status in marketing. While this should be encouraging for practitioners in the field, it should be noted that 86% of the explanation of the variance in job status attainment in marketing comes from factors outside the model. Thus, MDE and cooperative education explain only a small part of this complex process.

Three important limitations of the present study must be mentioned. Aggregation of data across programs did not permit discrimination between inferior and superior programs; a discrimination that may be of importance. And, because of limitations imposed by this data base, there is the possibility of misspecification of the model due to variables not included such as pretreatment measures of grade point averages, self-concept, career and educational aspirations. Lastly, this study relied on self-report data, thus there is the possibility of error in measurement of both the dependent and independent variables.

This study was important in that it focused on a single vocational program, MDE, and thus demonstrated the efficacy of Grasso's (1975) notion of scrutinizing selected dimensions of educational systems. Previously, most studies using longitudinal data sets had lumped vocational students together as a single amorphous mass. By submitting longitudinal data to path analysis, it was possible to examine the effects of MDE participation when the participants were in their mid-twenties, a time when young adults are beginning to develop career patterns.

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